

Work Order ID 154506

Wednesday, December 14, 2016 1:48:43 PM

154506

~~U/R~~

OK 9/10/12/14

Page 1

Item ID: D119-646-041
Revision ID: URF 15-560
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 12/14/2016 Start Qty: 1.00 *1*
Required Date: 12/28/2016 Req'd Qty: 1.00 *1*
Reference:

Accept *N900040100* Setup Start *NS1*
Stop *NS2*
Cust Item ID:
Customer:

Approvals: Process Plan: Date: DEC 14 2016 Tooling: Date: Run Start *NR1*
QC: DAS 21 9-89 Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3887-041	D
IIN-D119-646	C

100

0.00

100

DC

Doc.Control -USB or Paperwork

Memo

0.00

Photocopy bluefile & type labels per PPP D119-646-041 CHG004

110

0.00

110

Skidtubes

Skidtubes

Memo

0.00

1- inspect Mat'l. D2500-1-190 for damage

2-Cut tube to length as per dwg D3887 (154.8")

3- Ensure squareness of ends and scribe batch#

DAS
21
9-89

hahel

MAR 13 2017

16-12-15 DX

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Item ID: D119-646-041
Revision ID: URF 15-560
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 12/14/2016 Start Qty: 1.00 *1*
Required Date: 12/28/2016 Req'd Qty: 1.00 *1*
Reference:

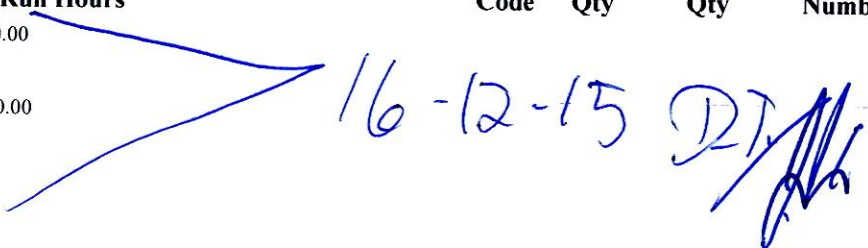
Accept

N900040100Setup Start ***NS1***Stop ***NS2***

Cust Item ID:

Customer:

Approvals: Process Plan: Date: Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00							
121 *121* QC Quality Control	QC7-Inspect Chemical Conversion Coat Memo	0.00 0.00							
122 *122* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00							

DAS
03
9-89DAS
03
9-89

16-12-15

16-12-15

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Item ID: D119-646-041 **Accept**
Revision ID: URF 15-560
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 12/14/2016 **Start Qty:** 1.00 ***1***
Required Date: 12/28/2016 **Req'd Qty:** 1.00 ***1***
Reference:

N900040100 **Setup Start *NS1***
Stop *NS2*
Cust Item ID:
Customer:

Approvals: **Process Plan:** **Date:** **Tooling:** **Date:** **Run Start *NR1***
QC: **Date:** **SPC (Y/N):** **Date:** **Stop *NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130

0.00

130

Skidtubes

Skidtubes

Memo

0.00

1- Install drill Jig DT9477 drill X-bolt spacer pilot holes using 3/16" drill first side only.

2- 2nd side, locating from first saddle holes use DT9861 A/B to drill 2nd side fwd saddle holes.

3- 2nd side locating from fwd saddle drill remaining crossbolt spacer holes using DT9477

4- Open crossbolt spacer holes to finished size as per dwg D3887 (section D-D and E-E) ***DO NOT OPEN FWD Saddles Holes***

5- Deburr, blow out chips from inside of tube.

6- Bond web in place as per Dwg D3887 & QSI 015.

A/RSikaflex-291

Sikaflex expire date:

Start: _____ Time: _____

Finish: _____ Time: _____

***** (Adhere for 12 hours) *****

16-12-15 DT
[Signature]

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Item ID: D119-646-041**Accept*****N900040100*****Setup Start *NS1*****Revision ID:** URF 15-560**Item Name:** AW119 Replacement Skidtube with Wearpads - Fits LH or RH**Stop *NS2*****Start Date:** 12/14/2016 **Start Qty:** 1.00***1*****Cust Item ID:****Required Date:** 12/28/2016 **Req'd Qty:** 1.00***1*****Customer:****Reference:****Approvals:** **Process Plan:****Date:****Tooling:****Date:****Run Start *NR1*****QC:****Date:****SPC (Y/N):****Date:****Stop *NR2*****Sequence ID/
Work Center ID****Operation
Description****Set Up/
Run Hours****Tool ID Tool # Plan Accept Reject Reject Insp.
Code Qty Qty Number Stamp**

135

QC5- Inspect part completeness to step on W/O

0.00

135

QC

Memo

0.00

Quality Control

DAS
03
9-89

16-12-19

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Item ID: D119-646-041

Accept

N900040100Setup Start ***NS1***

Revision ID: URF 15-560

Stop ***NS2***

Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 12/14/2016 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 12/28/2016 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursTool ID Tool # Plan Accept Reject Reject Insp.
Code Qty Qty Number Stamp

140

0.00

140

Skidtubes

Skidtubes

Memo

0.00

1- Bend FWD end of tube using bender 1 and FOLIO 31 bend prog.
D3887.***Must use bending aid DT9544, ensure proper positioning***

2- Cut FWD end of tube as per dwg D3887.***Verify measurment***

3- Buff out marks left from bending

4- Drill FWD cap holes using DT8215. Open FWD & AFT cap holes to 0.208"

5- Open FWD saddle holes to finished size as per dwg D3887

6- Drill FWD x-bolt spacer holes using DT9816 and open to finished
size.(verify measurement)7- Drill Tow ring hole, using DT10047 locate from FWD saddle hole. (verify
neasurement). Open to finished size.8- Drill 1.87" and 3.74 holes using DT10045 A&B locate from FWD saddle
hole. (verify measurement) as per dwg.

9- C'sink FWD cap hole as per detail "C"

10- Drill holes for wearpads using DT8931, open to 0.297".

11- Countersink crossbolt spacer holes, and prepare tube for welding, deburr.

12- Deburr and blow out chips from inside of tube.

Handwritten signature and date: 16-12-19

Handwritten signature and date: 16-12-23

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Item ID: D119-646-041**Accept*****N900040100*****Setup Start *NS1*****Revision ID:** URF 15-560**Stop *NS2*****Item Name:** AW119 Replacement Skidtube with Wearpads - Fits LH or RH**Start Date:** 12/14/2016 **Start Qty:** 1.00 ***1*****Cust Item ID:****Required Date:** 12/28/2016 **Req'd Qty:** 1.00 ***1*****Customer:****Reference:****Approvals:** **Process Plan:****Date:****Tooling:****Date:****Run Start *NR1*****QC:****Date:****SPC (Y/N):****Date:****Stop *NR2*****Sequence ID/
Work Center ID****Operation
Description****Set Up/
Run Hours****Tool ID****Tool #****Plan
Code****Accept
Qty****Reject
Qty****Reject
Number****Insp.
Stamp**

150

QC5- Inspect part completeness to step on W/O

0.00

150

QC

Memo

0.00

Quality Control

**DAS
18
9-99**

/ 0 1701-03

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Item ID: D119-646-041 Accept

Revision ID: URF 15-560

Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 12/14/2016 Start Qty: 1.00 *1*

Required Date: 12/28/2016 Req'd Qty: 1.00 *1*

Reference:

N900040100Setup Start ***NS1***Stop ***NS2***

Cust Item ID:

Customer:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursTool ID Tool # Plan Accept Reject Reject Insp.
Code Qty Qty Number Stamp

160

0.00

160

Skidtubes

Skidtubes

Memo

0.00

NOTE: TACK IN 2 MOST FWD X-BOLT SPACERS AND TEST FIT FWD
GROUND HANDLING FIXTURE, IF FIXTURE FITS WELL THEN
PROCEED. FIXTURE DT10091.1-Insert crossbolt spacers. Weld as per QSI 004 and Dwg D3887. Remember to
back drill each hole before welding the other side. Use aluminum rod
A/RAluminum Rod M1.33750

2-Grind cross bolt welds flush as per Dwg D3887. Ensure no pin hole.

3-Counterbore 5/16" x 0.750" deep as per Dwg D3887.

4- Deburr & Scribe batch # on Aft end of tube.

170

QC5- Inspect part completeness to step on W/O

0.00

170

QC

Quality Control

Memo

0.00

TEST FIT USING FIXTURE DT10091.

BE17-01-03

17-01-04 D.Y.

DP 17-1-5

17-01-04 D.Y.

17-01-09

DAS
9
9-88

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Item ID: D119-646-041
Revision ID: URF 15-560
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Accept

N900040100

Setup Start ***NS1***
Stop ***NS2***

Start Date: 12/14/2016 Start Qty: 1.00 ***1***
Required Date: 12/28/2016 Req'd Qty: 1.00 ***1***

Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:
QC: Date: SPC (Y/N):

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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180	QC10- Inspect visual per QSI004- ground welds	0.00							
-----	---	------	--	--	--	--	--	--	--

180

QC Memo

Quality Control

① 12.01.10
DAS
9-89

190	Pressure Wash per QSI005 4.3	0.00							
-----	------------------------------	------	--	--	--	--	--	--	--

190

HandFinish Memo

Hand Finishing Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

ⓧ
2017/01/10
BEB

200	White Gloss(Buf:4.3.5.1) per QSI005 4.3-Alum	0.00							
-----	--	------	--	--	--	--	--	--	--

200

Powdercoat Memo

Powder Coating

★
SEE
Attached

M/B6657
START TIME: 8:30
OVEN TEMPERATURE: 370°
FINISH TIME: 9:00

PTO
1 ⓧ 17.02.23

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Item ID: D119-646-041 Accept

Revision ID: URF 15-560

Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 12/14/2016 Start Qty: 1.00 *1*

Required Date: 12/28/2016 Req'd Qty: 1.00 *1*

Reference:

Approvals: Process Plan: Date: Tooling: Date:

QC: Date: SPC (Y/N): Date:

N900040100Setup Start ***NS1***Stop ***NS2***

Cust Item ID:

Customer:

Run Start ***NR1***Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursTool ID Tool # Plan
Code Accept Reject Reject Insp.
Qty Qty Number Stamp

210

QC3- Inspect Part Finish

0.00

210

QC

Memo

0.00

Quality Control

1x d 12/10/24 DAS
15
9-89

220

0.00

220

HandFinish

Memo

0.00

Hand Finishing

1-Install inserts as per Dwg D3887.

1x d 12/10/24

230

QC5- Inspect part completeness to step on W/O

0.00

230

QC

Memo

0.00

Quality Control

1 d 12/02/24 8:38

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Item ID: D119-646-041 Accept

Revision ID: URF 15-560

Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 12/14/2016 Start Qty: 1.00 *1*

Required Date: 12/28/2016 Req'd Qty: 1.00 *1*

Reference:

N900040100Setup Start ***NS1***Stop ***NS2***

Cust Item ID:

Customer:

Approvals: Process Plan: Date: Tooling: Date:

QC: Date: SPC (Y/N): Date:

Run Start ***NR1***Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

240

0.00

240

HandFinish

Hand Finishing

Memo

0.00

1-Install wearpads, gaskets as per Dwg D3887. Put sikaflex in insert before installing bolts and washers

A/R Sikaflex-240/-291 M1136652Sikaflex expire date: 12/22

2-assemble o'ring to plug as per dwg D3492 and apply o'ring lube

A/R 55-o'ring lube batch: M135473RTU598 M135385 exp: 9/6/16

3 -Inspect for foreign objects as per QSI 024

4 -Install Aft Cap and seal with Sikaflex. Clean excess adhesive.

A/R Sikaflex-240/-291 M1136652Sikaflex expire date: 12/22

245

QC5- Inspect part completeness to step on W/O

0.00

245

QC

Quality Control

Memo

0.00

1k of all 17102121

★
SEE
Attached

1

DAS
38
9-88

FEB 28 2017

Work Order ID 154506

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154506

Page 11

Item ID: D119-646-041 Accept

Revision ID: URF 15-560

Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 12/14/2016 Start Qty: 1.00 *1*

Required Date: 12/28/2016 Req'd Qty: 1.00 *1*

Reference:

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

Customer:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

250

Wing Walk as per dwg QSI005 4.4 Batch 11136806 0.00***250***

HandFinish

Memo

0.00

Hand Finishing

12 of 11136806

251

QC5- Inspect part completeness to step on W/O

0.00

251

QC

Memo

0.00

Quality Control

1

DAS
38

FEB 28 2017

260

Identify as per dwg & Stock Location W/O

0.00

260

Packaging

Memo

0.00

Packaging

W/O
155415

IX

17/03/13

DAS
36
9-89

Work Order ID 154506

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Item ID: D119-646-041**Accept*****N900040100*****Setup Start*****NS1*****Revision ID:** URF 15-560**Stop*****NS2*****Item Name:** AW119 Replacement Skidtube with Wearpads - Fits LH or RH**Start Date:** 12/14/2016 **Start Qty:** 1.00***1*****Cust Item ID:****Required Date:** 12/28/2016 **Req'd Qty:** 1.00***1*****Customer:****Reference:****Approvals:****Process Plan:****Date:****Tooling:****Date:****Run Start*****NR1*****QC:****Date:****SPC (Y/N):****Date:****Stop*****NR2*****Sequence ID/
Work Center ID****Operation
Description****Set Up/
Run Hours****Tool ID****Tool #****Plan
Code****Accept
Qty****Reject
Qty****Reject
Number****Insp.
Stamp**

270

QC21- Final Inspection - Work Order Release

0.00

270

QC

Memo

0.00

Quality Control

17/3/13

DAS
21
9-89

MAR 13 2017

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Page 1

Work Order ID: 154506

154506

Parent Item: D119-646-041

D119-646-041

Parent Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 12/14/2016

Required Date: 12/28/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP RevA: New issue DD verified by:EC
10.02.22 per PAR 09-043 EC verified by:DD IPP rev B
(DEOD3887-B-1)(ecn 12-675) DD verf:JLM IPP REV:D 12.11.05
chg003 ECN13-534 DD verf:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2500-1-190

Manufactured No

110

Each

94.0000

1

1

D2500-1-190

Ext'n - I' Beam Tube 4"

**

16-12-15 D.T.

Location

Loc Qty

Loc Code

HALL

94

145247

11

151612

83

D2579

Manufactured No

140

Each

65.0000

2

2

D2579

Crossbolt Spacer

**

BE 17-01-03

Location

Loc Qty

Loc Code

LG001

65

123997

1

141711

64

D2855-3

Manufactured No

240

Each

12.0000

2

2

D2855-3

Cap

**

all 17/02/21

Location

Loc Qty

Loc Code

FP001

12

142564

4

151614

8

B153241 *

44

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Work Order ID: 154506

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Parent Item: D119-646-041

D119-646-041

Parent Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 12/14/2016

Required Date: 12/28/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1611-005

Purchased

No

240

Each

366.0000

16

16

NAS1611-005

**

O-RING

Location

Loc Qty

Loc Code

FP001

366

m136184

74

m136192

92

m136377

200

x16

D3492-5

Manufactured

No

240

Each

184.0000

16

16

D3492-5

**

Plug

Location

Loc Qty

Loc Code

FP001

184

133396

8

136396

6

152195

167

152814

3

x16

D3672-1

Manufactured

No

240

Each

948.0000

2

2

D3672-1

**

Washer, Phenolic

Location

Loc Qty

Loc Code

FG

10

85222

10

FP001

780

112218

4

134785

276

150074

500

ST049

158

147077

158

x2

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Work Order ID: 154506

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Parent Item: D119-646-041

D119-646-041

Parent Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 12/14/2016

Required Date: 12/28/2016

Start Qty: 1.00

Required Qty: 1.00

D3681-1

Manufactured No

160

Each

66.0000

8

8

D3681-1

Spacer

**

8617-01-03

Location

Loc Qty

Loc Code

LG001

66

145956

1

151967

4

152459

61

8

D3847-1

Manufactured No

240

Each

82.0000

5

5

D3847-1

Wearpad

**

all 1710224

Location

Loc Qty

Loc Code

FP001

82

152441

9

153009

15

153010

22

153011

22

153503

14

X5

D3847-11

Manufactured No

240

Each

6.0000

1

1

D3847-11

Wearpad

**

all 1710224

Location

Loc Qty

Loc Code

FP001

6

151985

4

151986

2

15154349

X1

D3885-1

Manufactured No

140

Each

6.0000

1

1

D3885-1

Standard Web

**

16-12-15 D-7

Location

Loc Qty

Loc Code

LG002

6

153347

6

1

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Work Order ID: 154506

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Parent Item: D119-646-041

D119-646-041

Parent Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 12/14/2016

Required Date: 12/28/2016

Start Qty: 1.00

Required Qty: 1.00

D3903-1

Manufactured No

160

Each

92.0000

12

12

D3903-1

**

Spacer

8E 170103

Location

Loc Qty

Loc Code

LG001

92

152993

92

12

ALS4-1032-130

AELS4-1032-130

Purchased

No

220

Each

2,630.000

30

30

ALS4-1032-130

**

Rivnut

all 1710212

Location

Loc Qty

Loc Code

FG

50

FG

M135442

50

M136579

FP001

2572

130

M133077

72

M135442

2500

ST556

8

M135442

8

AN3C5A

Purchased

No

240

Each

826.0000

32

32

AN3C5A

**

Bolt

all 1710212

Location

Loc Qty

Loc Code

FG

5

122800

5

M136648

FP001

508

132

M136047

500

M136295

8

OVER002

100

M136182

100

ST350

213

M134676

13

M135442

200

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Shop Packet Print

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Picklist Print

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Work Order ID: 154506

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Parent Item: D119-646-041

D119-646-041

Parent Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 12/14/2016

Required Date: 12/28/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0332R

Purchased

No

Each

4.427.000

32

NAS1149C0332R

**

all 17/02/21

WASHER

Location

Loc Qty

Loc Code

FP001

59

M136741

x32

m135672

33

m135948

14

m136199

12

GA

74

m133284

74

ST260a

3500

m135466

1000

m136042

500

m136301

2000

ST266

794

m135408

94

m135766

500

m135908

200

Each

96.0000

2

**

all 17/02/21

MS24694-C52

Purchased

No

MS24694-C52

SCREW

Location

Loc Qty

Loc Code

FP001

92

m135978

92

x2

ST285

4

m127059

4

QQA: _____ Date: _____

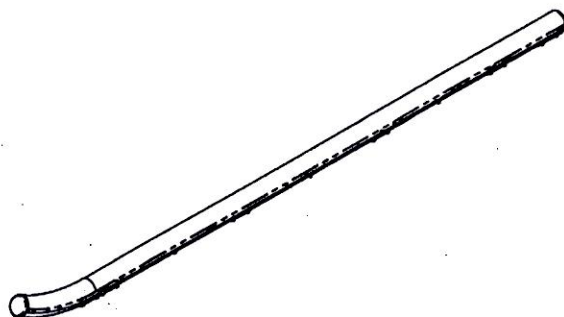
WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																																																																																																																															
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval																																																																																																																																																											
Description Work Order Deviation				Disposition				Completed By																																																																																																																																																											
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D3887-041 STANDARD SKIDTUBE ASSY WITH WEARPAD (SHOWN)
D3887-043 STANDARD SKIDTUBE ASSY WITH WEAPLATE (SIMILAR)
D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE (SIMILAR)

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3885-1 WEB
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D3887-041 = 32.0 lbs
D3887-043 = 37.0 lbs
D3887-045 = 38.1 lbs
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 8.5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020" DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) INSERT D3885-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/291 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP
- 11) INSERT D3482-045 PLUG ASSY INTO Ø0.197 HOLES (BOTH SIDES OF TUBE)
- 12) USE DART DRILL TEMPLATE DT8931 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARPLATE INSERTS. INSTALL AELS-1032-130 INTO D3887-11 ONLY. INSTALL AN3C5A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241/291.

ITEM	QTY -041	QTY -043	QTY -045	P/N	DESCRIPTION
1	X			D3887-041	STD SKIDTUBE ASSY WITH WEARPAD
2		X		D3887-043	STD SKIDTUBE ASSY WITH WEARPLATE
3			X	D3887-045	STD SKIDTUBE ASSY WITH TRAINING WEARPLATE
10	2	2	2	D2579	CROSS BOLT SPACER
11	2	2	2	D2866-3	CAP
12	16	16		D3492-045	PLUG ASSY
13	2	2	2	D3672-1	PHENOLIC WASHER
14	8	8	8	D3681-1	SPACER
17	5	5		D3847-1	WEARPAD
18	1	1		D3847-11	AFT WEARPAD
19		1		D3847-043	FWD WEARPLATE ASSY
20		1		D3847-045	CENTER WEARPLATE ASSY
21		1		D3847-047	AFT WEARPLATE ASSY
22			1	D3849-041	FWD TRAINING WEARPLATE ASSY
23			1	D3849-043	AFT WEARPLATE ASSY
24	1	1	1	D3885-1	STANDARD WEB
25	1	1		D3887-11	STANDARD SKIDTUBE
26			1	D3887-13	STANDARD SKIDTUBE
27	12	12	12	D3903-1	SPACER
28			16	D3904-1	WASHER
41	30	30		AL84-1032-130	INSERT
42	32	32	2	AN3C5A	BOLT
43			8	AN3C46A	BOLT
44	32	32		NAS1149C0332R	WASHER (OR AN660C10L)
45			8	MS21043-3	NUT
46	2	2	2	MS24694-C52	SCREW

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ECN 14-628
UNDER REVIEW
15.04.30 URF15-560 AP

D	REVISED BEND TOLERANCES FOR MANUFACTURABILITY. 135.57 WAS 134.04 (ZN D5-8). ADD 8.67 (ZN C2-8). ADD 118.8 (ZN D5-8). DELETE GASKETS (BOM, SH 2)	DB	13.09.20
C	(BHT1, PL, ZN C2-2, C2-2, C4-2) ITEM 13, QTY 2 WAS 4. ITEM 42, QTY 32 WAS 34. ITEM 44, QTY 30 WAS 32. ADD ITEM 46, MS24694-C52 WAS AN3C5A, 2 PLCS (ZN C1-5, C1-6, B4-7) Ø0.201 CSK Ø0.385 X 100" WAS Ø0.214 THRU. ADDED DETAIL F (ZN C6-5, C6-6, B5-7). ADD ITEM 10, D2579 CROSS BOLT SPACER (ZN D4-1, A6-7)	DB	13.02.19
B	AL84-1032-130 WAS AELS-1032-130 (ZN C4-1, C5-7, C5-7); ADD DT8931 (ZN A6-1); ADD 134.04 (ZN C4-8); D2866-3 WAS D2579 (ZN D4-1, C7-2, C2-2, C7-3, C2-3, C7-4, C2-4); AN3C5A WAS AN3C4A (ZN C6-2, C2-2, C6-3, C2-3, C6-4, C2-4); Ø0.313 WAS Ø0.328 (ZN C4-5, C4-5, C2-7 & B5-7) REVISED NOTE H (ZN B3-7)	RF	09.06.30
A	NEW ISSUE	RF	09.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	RF		
DRAWN	DB		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	13.09.20		

DART AEROSPACE USA, INC.

KENT, WA

DRAWING NO.

D3887

REV. D

SHEET 1 OF 8

TITLE

A119 STD SKIDTUBE ASSY

SCALE

NTS

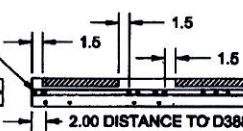
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AN3C5A BOLT
D3672-1 PHENOLIC WASHER
NAS1149C0332R WASHER
(1 PER SIDE)

SEAL WITH
SIKAFLEX-241/291

D2855-3 CAP

D3847-11
WEARPAD



AN3C5A BOLT
NAS1149C0332R WASHER
24 PL

PLUG UNUSED INSERTS WITH
AN3C5A BOLT
NAS1149C0332R WASHER
6 PL

D3847-1
WEARPAD
5 PL

D2855-3 CAP

SEAL WITH
SIKAFLEX-241/291

MS24894-C52 SCREW
(1 PER SIDE)

D3887-041 STANDARD SKIDTUBE ASSY WITH WEARPAD
(MAKE FROM D3887-11)

UNDER REVIEW

15.04.30 URF15-560 AP

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AN3C5A BOLT
D3672-1 PHENOLIC WASHER
NAS1149C0332R WASHER
(1 PER SIDE)

SEAL WITH
SIKAFLEX-241/291

D2855-3 CAP

D3847-11
WEARPAD

D3847-047
AFT WEARPLATE ASSY

AN3C5A BOLT
NAS1149C0332R WASHER
30 PL

D3847-045
CENTER WEARPLATE ASSY

D3847-043
FWD WEARPLATE ASSY

D3847-1
WEARPAD
5 PL

BLACK ANTI-SKID TO 0.5
ABOVE LOCATION RIDGE
TYP

11
Ø 0.197
8 PL PER SIDE
REF

2.00 DISTANCE TO D3885-1 WEB, REF

D2855-3 CAP

SEAL WITH
SIKAFLEX-241/291

MS24694-C52 SCREW
(1 PER SIDE)

D3887-043 STANDARD SKIDTUBE ASSY WITH WEARPLATE
(MAKE FROM D3887-11)

UNDER REVIEW

15.04.30 URF15-560 AP

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AN3C5A BOLT
D3672-1 PHENOLIC WASHER
NAS1149C0332R WASHER
(1 PER SIDE)

SEAL WITH
SIKAFLEX-241/281

D2855-3 CAP

AN3C46A BOLT
D3904-1 WASHER, 2 PL
MS21043-3 NUT
8 PL

D3849-043
AFT TRAINING WEARPLATE ASSY

BLACK ANTI-SKID TO 0.5
ABOVE LOCATION RIDGE
TYP

1.5 1.5 1.5

2.00 DISTANCE TO D3885-1 WEB

1.5 1.5

D2855-3 CAP

SEAL WITH
SIKAFLEX-241/281

MS24894-C52 SCREW
(1 PER SIDE)

D3849-041
FWD TRAINING WEARPLATE ASSY

D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE
(MAKE FROM D3387-13)

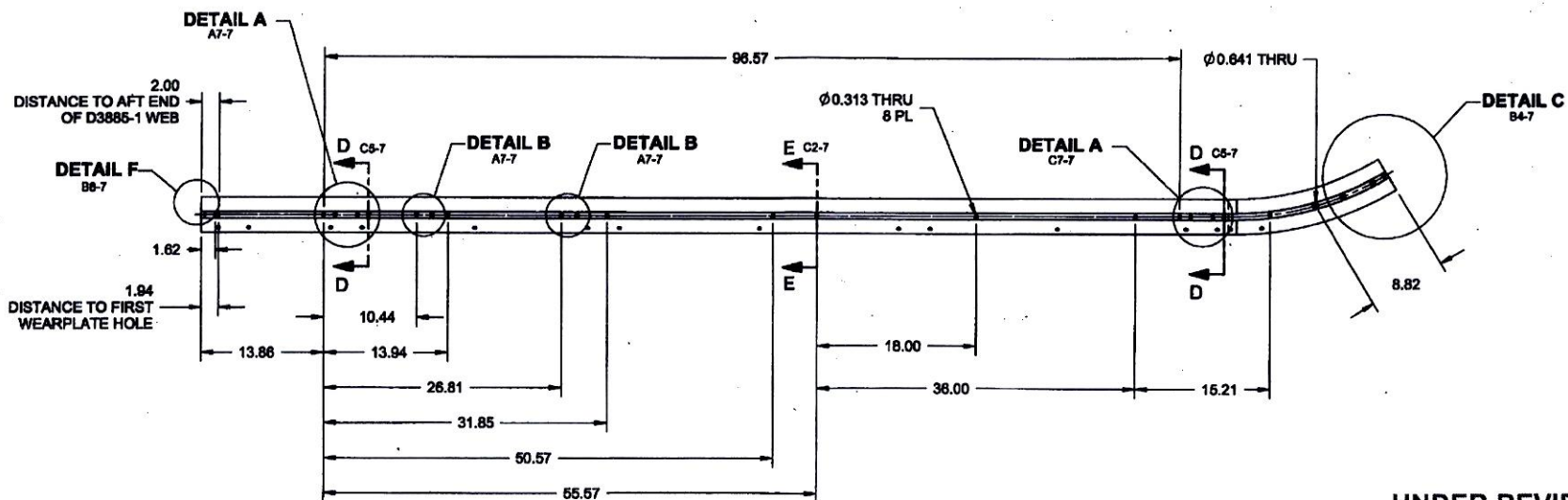
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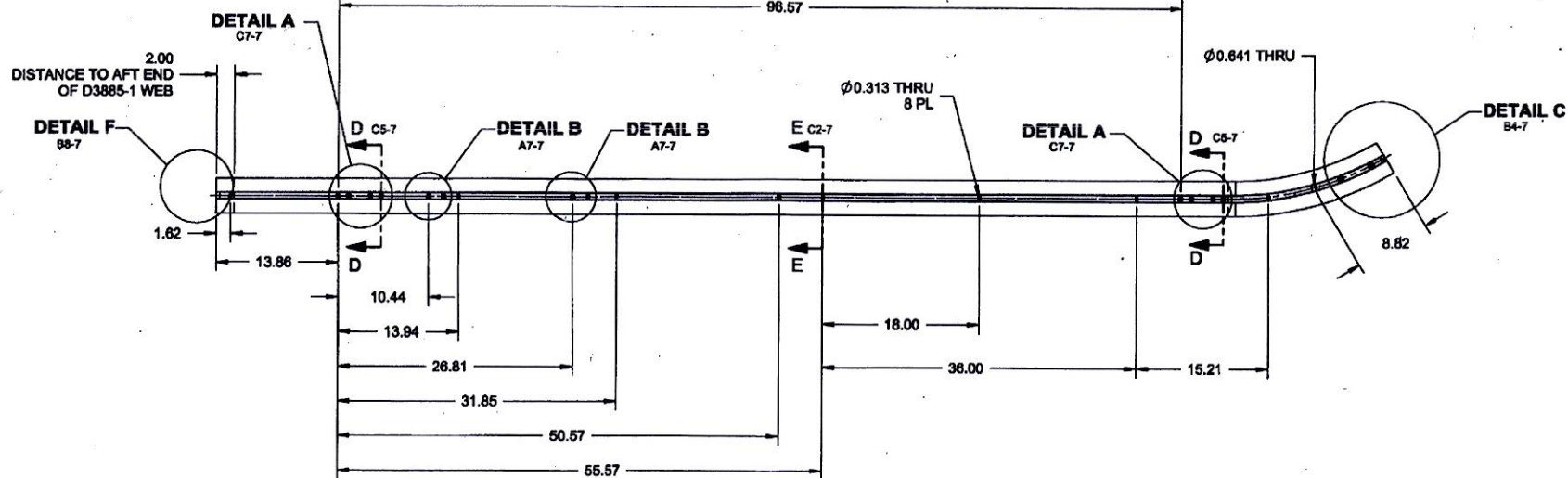
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D3887-13 DRILLING DETAIL
(MAKE FROM D3887-1)

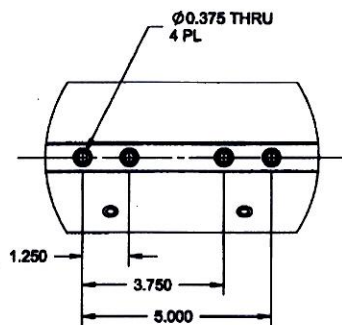
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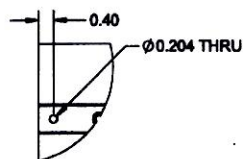
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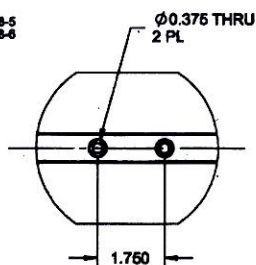
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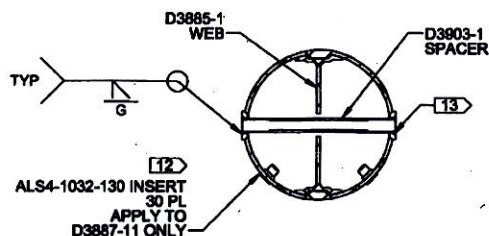
DETAIL A
SCALE 4X
D7-5
C3-5
D7-6
C3-6



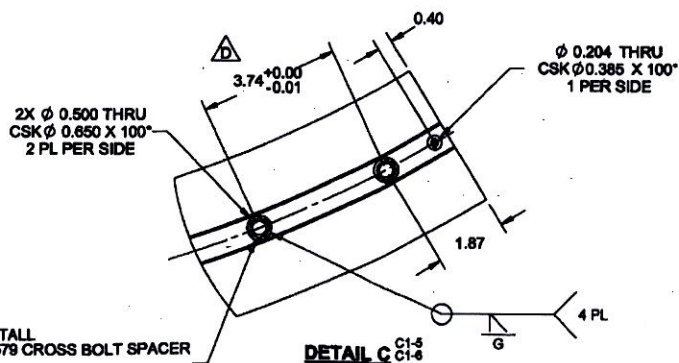
DETAIL F
SCALE 4X
C3-5
C3-6



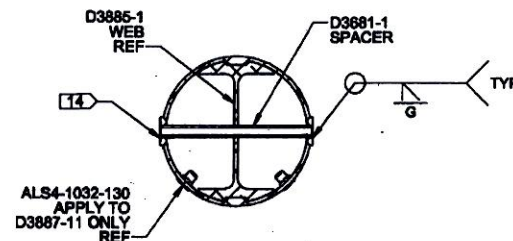
DETAIL B
SCALE 4X
C3-6
C3-5
C3-6
C3-6



SECTION D-D
SCALE 4X
(FOR 12 X Ø0.375 HOLES PER SKIDTUBE)
C7-5
C3-5
C7-6
C3-6



DETAIL C
TYPICAL
SCALE 4X
C1-5
C1-6



SECTION E-E
SCALE 4X
(FOR 8 X Ø0.313 HOLES PER SKIDTUBE)
C4-5
C4-8

- NOTES:**
- 13) AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:
- i) CHAMFER HOLES Ø0.475 x 45°
 - ii) INSERT D3803-1 SPACER
 - iii) WELD INTO PLACE AND GRIND FLUSH
 - iv) CBORE TO 0.313 x 0.75 DEEP
 - v) DEBURR HOLES
- 14) AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.313 HOLES ONLY:
- vi) CHAMFER HOLES Ø0.354 x 45° OR 0.050 DEEP x 45° (BOTH SIDES)
 - vii) INSERT D3881-1 SPACER
 - viii) WELD INTO PLACE AND GRIND FLUSH
 - ix) DEBURR HOLES

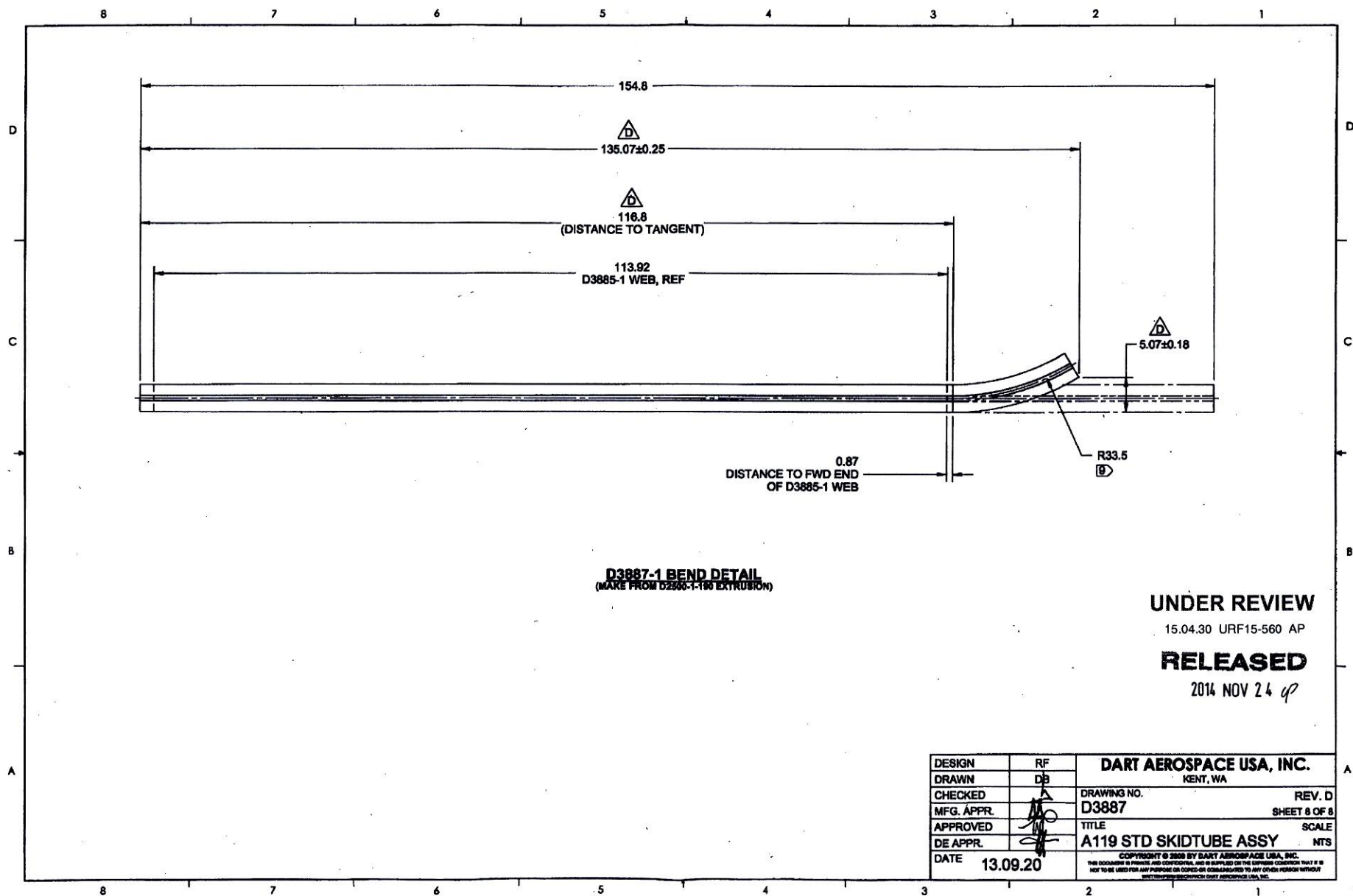
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RELEASED

2014 NOV 24 q

DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D3887	SHEET 7 OF 8
APPROVED		TITLE	SCALE
DE APPR.		A119 STD SKIDTUBE ASSY	NTS
DATE	13.09.20	COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS RECOGNITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	



DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed:

Date:

Work Order update only ☐

Work Order: <u>154506</u> Part No. <u>D119-646-041</u> NCR No. _____		DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☒ Quality ☐ Other ☐			
Date: <u>16/12/14</u>		Step #: <u>200</u>		QTY Effective : _____		MRB (QSI042) Approval DAS 12 16/12/14 9-89	
Description Work Order Deviation Do not powder coat saddle mating surface per customer request, a/dome only.				Disposition Finish per attached dwg		Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____	
Root Cause Environment ☐ Design ☐ Doc/Data ☒ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
☒ OTHER: <u>Customer request</u>							

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: <u>154506</u> Part No. <u>D119-646-041</u> NCR No. _____		DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☒ Quality ☐ Other ☐			
Date: <u>16/12/14</u>		Step #: <u>240</u>		QTY Effective : _____		MRB (QSI042) Approval DAS 12 9-89 <u>16/12/14</u>	
Description Work Order Deviation Plug holes with AN3C4A rather than AN3C5A				Disposition Acceptable AN3C-4A / M136740 (x6)		Completed By <u>ll</u> DAS 15 9-89 Lead hand / Supervisor Approval Verification	
						QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☒ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ ☒ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
OTHER : _____							

